

Abstract

A torque-limiting coupling device including a cylindrical sleeve and a cylindrical shaft in radially tensioned frictional engagement for transferring torque up to a torque limit that corresponds to the radial tension and at which the sleeve begins to rotate relative to the shaft. The device also includes at least one pump mechanism which is adapted to be driven to pump liquid to the interface between co-acting surfaces of the sleeve and shaft upon relative rotation between the sleeve and the shaft. The shaft includes a surface layer that defines one of the co-acting surfaces and that is made of a material, e.g. tombak, whose plasticizing limit is lower than the plasticizing limit of the material in the co-acting surface of the sleeve. The surface layer may include cavities which enable the surface layer to take a smaller radial thickness after plasticization thereof.